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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/783,556	02/15/2001	Katsuhito Sakurai	35.C15132	9372

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EXAMINER
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VIEAUX, GARY

ART UNIT	PAPER NUMBER
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2612

DATE MAILED: 02/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/783,556	SAKURAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Gary C. Vieaux	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 08 October 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 11-19 is/are allowed.
- 6) ☒ Claim(s) 1,2,5-7,9 and 10 is/are rejected.
- 7) ☒ Claim(s) 3,4 and 8 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 2/15/2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>4/05/2001</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### **Change of Examiner**

5           The prosecution of this application has been transferred to Examiner Gary  
C. Vieaux from the docket of Examiner Jeremy R. Elder. Any inquiry concerning this  
Office Action or earlier communications should be directed to the current Examiner of  
record. Current contact information is provided in the last section of this  
communication.

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### **Information Disclosure Statement**

          The information disclosure statement (IDS) submitted on April 5, 2001 was  
incomplete, in that only an introductory letter was received, without the accompanying  
PTO-1449 form. The application referenced in the introductory letter will be considered  
15   by the Examiner.

### **Election of Species**

          Applicant's Response to the Election of Species Requirement of October 8,  
2004, has been received and made of record. Election was made in relation to the  
20   species as represented by Figure 5, and as applied to by claims 1-7, 9-16, 18 and 19.

          Claims 8 and 17, would generally be withdrawn from further consideration  
pursuant to 37 CFR 1.142(b), as being drawn to a nonelected species, if there was no  
allowable generic or linking claim. However, the new Examiner of record agrees with

the Applicant in this instance, by way of the timely traversed election of species requirement of September 8, 2004, in that claims 1-19 are so closely related that searching all claims at once would not impose an undue burden on the Examiner.

Therefore, the previous election of species requirement is hereby withdrawn and claims

5 1-19 will be examined on their merits.

### ***Drawings***

**Figure 1** should be designated by a legend such as --Prior Art-- because only

10 that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled

"Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the

15 applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Specification***

The title of the invention is not descriptive. A new title is required that is clearly

20 indicative of the invention to which the claims are directed.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

- 5 (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 1-2, 5-6 and 9** are rejected under 35 U.S.C. 102(b) as being anticipated  
10 by Hamasaki (US #5,793,423.)

Regarding claim 1, Hamasaki teaches an image pickup apparatus comprising a plurality of pixels, each of said pixels including a photoelectric conversion element adapted to perform photoelectric conversion (fig. 2; col. 3 lines 22-24) and an amplifier element adapted to amplify and output a signal from said photoelectric conversion  
15 element (fig. 2 indicator 4; col. 3 lines 25-29), and a control element adapted to limit an output level of said amplifier element so that the output level is prevented from falling to below a predetermined level (fig. 2 indicator 12, col. 3 lines 53-58.)

Regarding claim 2, Hamasaki teaches all the limitations of claim 2 (see the 102(b) rejection to claim 1 supra) including teaching an apparatus wherein said control  
20 element includes a clipping circuit (col. 3 lines 49-58, in which the potential is limited to the clamping level  $V_{CLP}$ .)

Regarding claim 5, Hamasaki teaches all the limitations of claim 5 (see the 102(b) rejection to claim 1 supra) including teaching an apparatus wherein said control element limits the output level in accordance with a level of a signal generated by said  
25 photoelectric conversion element (col. 3 lines 49-58.)

Regarding claim 6, Hamasaki teaches all the limitations of claim 6 (see the 102(b) rejection to claim 1 supra) including teaching an apparatus wherein said control element is arranged on an output line (fig 2 indicator 9) to which a signal from said amplifier element (fig. 2 indicator 4) is output (fig. 2.)

5 Regarding claim 9, Hamasaki teaches all the limitations of claim 9 (see the 102(b) rejection to claim 1 supra) including teaching an apparatus wherein said pixel includes a selector element adapted to select said pixel (fig. 2 indicator 2), and said control element includes the same arrangement as said amplifier element and said selector element (fig. 2.)

10

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

15 (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

20 **Claim 7** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki (US #5,793,423) in view of Suzuki et al. (US #6,677,993.)

Regarding claim 7, Hamasaki teaches all the limitations of claim 7 (see the 102(b) rejection to claim 1 supra) except for teaching an apparatus wherein said amplifier element and said control element constitute an input unit of a differential  
25 amplifier circuit.

Nevertheless, Suzuki teaches an image pickup apparatus, which includes an amplifier element (fig. 15 indicator 102), and the output of a signal generated by a photoelectric conversion element being input into a differential amplifier circuit (fig. 15 indicator 119; col. 2 lines 13-16.) It would have been obvious to one of ordinary skill in the art at the time of the invention to include the differential amplifier as taught by Suzuki, with the image pickup apparatus as taught by Hamasaki, for the purposes of suppressing fixed pattern noise.

**Claim 10** is rejected under 35 U.S.C. 103(a) as being unpatentable over Hamasaki (US #5,793,423) in view of Examiner's Official Notice.

Regarding claim 10, Hamasaki teaches all the limitations of claim 10 (see the 102(b) rejection to claim 1 supra) except for expressly teaching an apparatus further comprising a lens adapted to form light into an image on said pixel, an analog-to-digital conversion circuit adapted to convert a signal output from said pixel into a digital signal; and a signal processing circuit adapted to process the signal from said analog-to-digital conversion circuit. Nevertheless, Official notice is taken regarding the incorporation of a lens, an analog-to-digital converter, and a signal processing circuit with an image pickup apparatus for the purposes of forming a digital camera; concepts which are known and expected in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to employ a image pickup unit within a digital camera which incorporated a lens for the purpose of focusing an image onto the image pickup unit, an analog-to-digital converter for the purpose of converting the analog signal from

Art Unit: 2612

the image pickup device into a digital signal for further digital processing and storage, and a signal processing circuit for the purpose of effecting digital processing, such as white balance adjustment or sharpness processing.

5

***Allowable Subject Matter***

**Claims 3-4, and 8** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10     Regarding claim 3, the prior art is not found to teach or fairly suggest, in combination with the claim from which dependence is derived, a load element adapted to serve as a load of an amplifier element, in combination with a control element which limits the output of the load element to prevent turn off.

Regarding claim 4, the prior art is not found to teach or fairly suggest, the elements of the claim in combination with the claim from which dependence is derived.

15     Regarding claim 8, the prior art is not found to teach or fairly suggest, in combination with the claim from which dependence is derived, a control element which both controls the low level of a pulse for driving a reset element and limits the output level of an amplifier element so as to prevent the output level from falling to below a predetermined level.

20

**Claims 11-19** are allowed.

Regarding claim 11, the prior art is not found to teach or fairly suggest, in



Art Unit: 2612

combination with the existing elements of the present claim, an image pickup apparatus which includes a control element adapted to prevent a load element from being turned off regardless of quality of signal generated by a photoelectric conversion element.

Regarding claims 12-19, the prior art is not found to teach or fairly suggest, the  
5 elements of the claims in combination with the claim from which dependence is derived.

### **Conclusion**

The prior art made of record and not relied upon is considered pertinent to  
10 applicant's disclosure.

Kudo (US #6,784,931) discloses a predetermined clamp potential on a vertical signal line.

Sakuragi (US 2001/0033337 A1) discloses clamping of vertical signal line potential  
15

### **Contact**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gary C. Vieaux whose telephone number is 703-305-9573 until March 1, 2005, and 571-272-7318 afterwards. The examiner can normally be  
20 reached during his usual office hours, which are Monday - Friday, 8:00am - 4:00pm, with alternating Fridays off.

Art Unit: 2612


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber (SPE 2612) can be reached at 703-305-4929 until March 1, 2005, and at 571-272-7308 afterwards. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

- 5 Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should
- 10 you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gary C. Vieaux  
Examiner  
Art Unit 2612

Gcv2

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